

## ABSTRACT OF THE DISCLOSURE

A system for a hydraulically driven vehicle includes a pump producing fluid flow at an outlet, pump-motors having variable flow rates for driving the wheels,  
5 a hydraulic rail having a pressure and connecting the pump and the pump-motors, sensors producing signals representing rail pressure, pump-motor speed, pump-motor displacement, and a controller for determining a target hydraulic system parameter, determining, based at least in part on the flow rate of the pump-motor, rail pressure, and a flow rate produced by the engine-pump, a flow rate produced by the engine-  
10 pump that is required to produce the target system parameter, and adjusting an engine operating parameter of a cylinder-pump bank such that the demanded magnitude of the system parameter is produced.